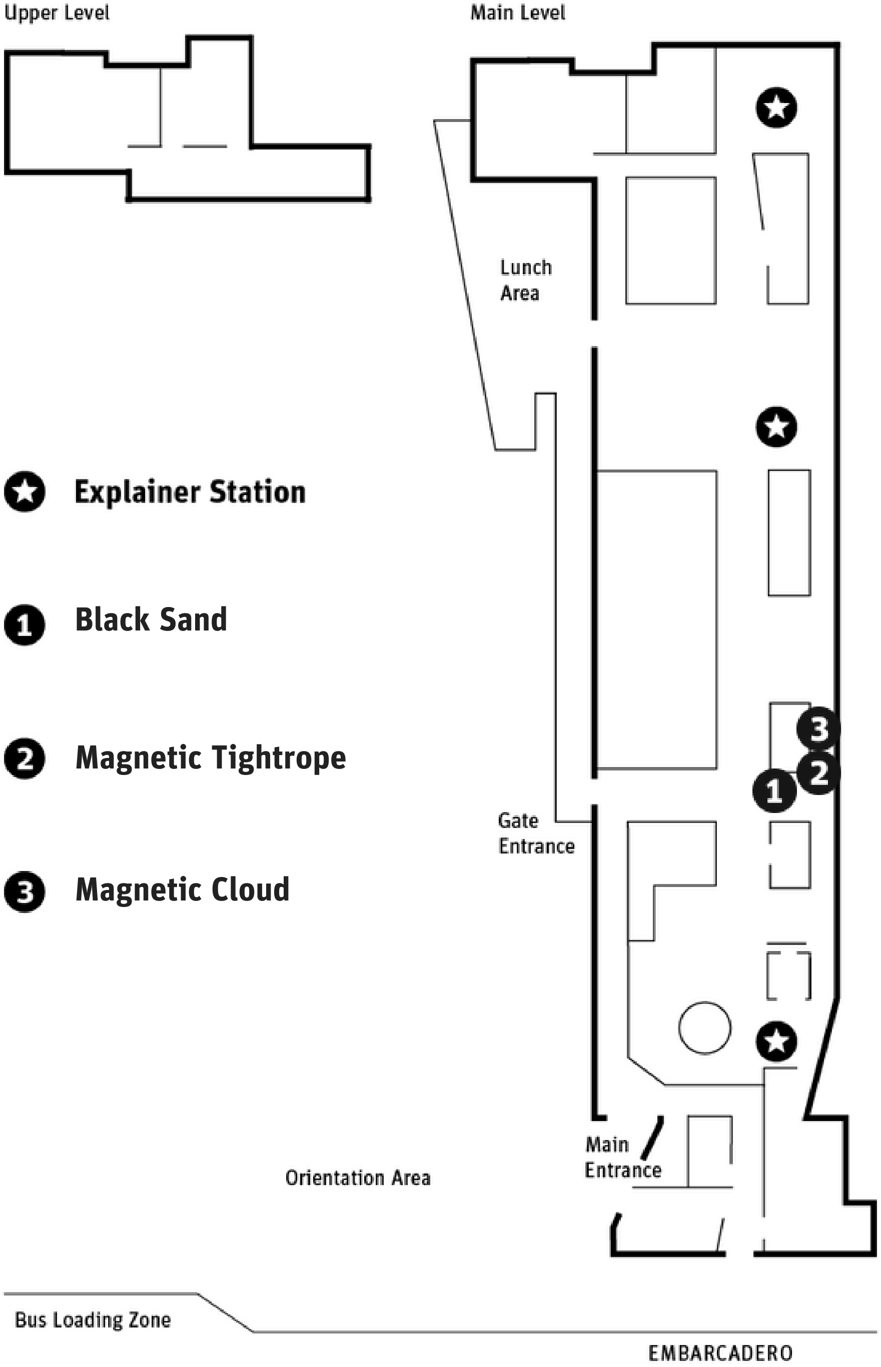


★ Explainer Station

① Black Sand

② Magnetic Tightrope

③ Magnetic Cloud

exploratorium®

Field Trip Chaperone Guide

Exploring Magnets

BEFORE YOU START

You don't have to be a science expert!
The goal of this guide is to support you in deepening students' experiences. We've provided some questions you can ask to focus their explorations. Remember to have fun and enjoy your visit!

Make it your own!
Try to make this experience unique for yourself and your group by sharing related stories or asking your own open-ended questions. Feel free to visit the listed exhibits at any time during your field trip and in any order.

What is the value of this guide?
The topic, exhibits, and questions in this guide were designed to enrich your students' learning. There is a lot to think about as a chaperone, and this guide will walk you through an experience chosen by your teacher.

Where are the exhibits?
Look at the labeled map on the back to find the exhibits you will visit. We often move exhibits around. If you need help finding an exhibit, just ask an orange-vested Explainer.

LET'S GET STARTED!

Read these instructions out loud to your group of students.

I will guide you to three exhibits that are relate to magnets and magnetism.

At each of the exhibits we will explore, investigate, and share.

Step 1: Explore the exhibit
First, we will play with the exhibit. We can use all of our senses to make observations and compare different parts of the exhibit.

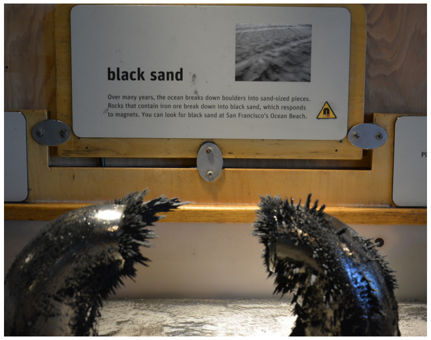
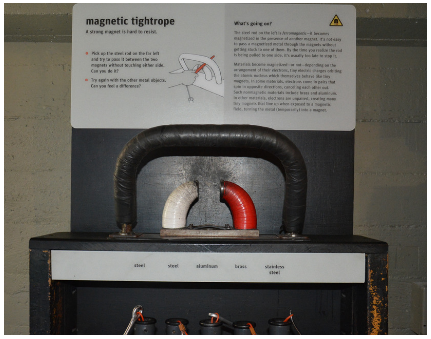
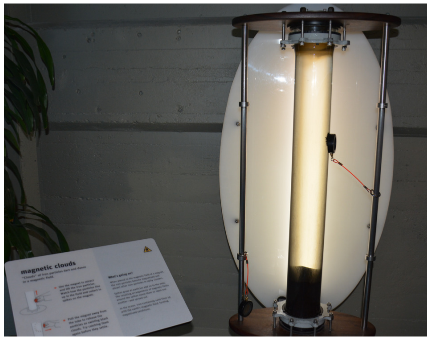
[Tips for Facilitation: Model making observations and asking open-ended questions. Encourage taking turns.]

Step 2: Investigate questions
While at the exhibits, I will read some questions and things to try. We can also come up with our own questions.

[Tips for Facilitation: Repeat or rephrase questions to help guide the students. It's OK if students don't get to an answer.]

Step 3: Share ideas
Finally, we will step away from the exhibit and discuss ideas about what's going on. Don't worry, this is not about getting the "right answer." It's about sharing ideas.

[Tips for Facilitation: Stand or sit in a small circle and give each student a chance to share. Add your own thoughts on the exhibit or different discussion questions.]

Step 1 Explore the Exhibit *Let's try it out!*	**Step 2** Investigate Questions *What did you notice?*	**Step 3** Sharing Ideas *Time to discuss*
Black Sand 	TAKE A CLOSER LOOK: Place a small amount of black sand in the palm of your hand and move your hand slowly around the magnets. Can you find where the magnet stops attracting the sand? LET IT FALL: What happens if you drop black sand between the two magnets?	WARM-UP QUESTION: Was there anything about this exhibit that surprised you? DESCRIBE IT: How would you describe the shape of the black sand and how it changes near the magnet?
Magnetic Tightrope 	DON'T GET STUCK: Pick an object that is attracted to the magnets and try passing it quickly through the center of two magnets. Can you get it through without touching the magnet? FROM YOUR POCKET: Try using an object from your pocket or backpack. Which objects are attracted to the magnets and which ones aren't?	WARM-UP QUESTION: What did you find interesting at this exhibit? COMPARISON: Which materials were attracted to the magnets? Which objects were easier or harder to pass through the magnets?
Magnetic Cloud 	CATCH THE CLOUD: Try catching the tiny bits of iron as they fall. Can you find a way to gather a lot of iron particles on one magnet? TEST THE DISTANCE: How far away from the tube can you hold the magnet and still attract the iron?	WARM-UP QUESTION: What was most memorable about this exhibit? EXPLORING MATERIALS: Think back to the Magnetic Tightrope exhibit. If the iron were plastic, would the exhibit still work? What makes you think that?